

## CLAIMS

What is claimed is:

- 1     1.     An optical transmission apparatus  
2             having a plurality of ports for transmitting and/or receiving one or more signals  
3             substantially as defined at IEEE 1394;  
4             at least one of the ports being for transmitting and/or receiving one or more optical  
5             signals; and  
6             signal transmission protocol conversion being carried out at the physical-layer level  
7             on at least one of the signals transmitted and/or received by at least one of the ports;  
8             wherein the optical transmission apparatus comprises one or more bus management  
9             means for co-managing one or more signal buses respectively connected externally to at  
10            least a portion of the ports.
- 1     2.     An optical transmission apparatus according to claim 1 further comprising  
2             one or more application-level protocol conversion means for carrying out signal  
3             transmission protocol conversion at the application level.
- 1     3.     An optical transmission apparatus according to claim 2 wherein  
2             at least one of the application-level protocol conversion means carries out conversion  
3             between or among one or more DV-format signal transmission protocols and one or  
4             more MPEG-2TS-format signal transmission protocols.
- 1     4.     An optical transmission apparatus according to claim 2 wherein  
2             at least one of the application-level protocol conversion means carries out conversion  
3             between or among one or more 1-bit audio signal transmission protocols and one or more  
4             multi-bit audio signal transmission protocols.
- 1     5.     An optical transmission apparatus according to claim 4 wherein  
2             at least one of the multi-bit audio signal transmission protocol or protocols is  
3             substantially as defined at IEC 60958.
- 1     6.     An optical transmission apparatus according to claim 4 wherein  
2             at least one of the multi-bit audio signal transmission protocol or protocols is  
3             substantially as defined at MPEG Audio Layer-3.

- 1 7. An optical transmission apparatus according to claim 2 wherein  
2 one or more of the application-level protocol conversion means take the form of one  
3 or more replaceable modules.
- 1 8. Electronic equipment comprising one or more optical transmission apparatuses  
2 according to any of claims 1 through 7.